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ABSTRACT

Although the augmental value of exercise to behavioral weight control programs has been suggested, demonstration of this value is dependent upon an assessment of adherence to change in eating habits and activity patterns. Self-report measures of adherence were obtained from overweight college women undergoing treatment that involved either dietary restriction or dietary restriction with exercise. Change in recovery pulse rate was used as an additional measure of adherence to exercise. Results analyzed after 10 weeks of treatment revealed that all subjects reported high levels of adherence when caloric intake and output were recorded. Neither group adhered to good eating habits consistently; however, the diet/exercise group increased their activity levels. The findings suggest that the differential weight loss between groups may be attributed to an increase in physical activity by the exercise group. (NRB)

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Assessment of Adherence to Eating Habit and Exercise Components in a Behavioral Weight Control Program

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Recently, several authors have suggested the augmental value of exercise to behavioral weight control programs. For several physiological reasons, a program combining caloric restriction and exercise would be expected to be superior to dietary restriction alone (Katch & McArdle, 1977). However, a clear demonstration of the augmental value of exercise in a behavioral program is dependent upon an assessment of adherence to changes in eating habits and activity patterns. Currently, the behavioral literature lacks an adequate technology for obtaining reliable and valid measures of adherence to these behaviors. In the present study, several self-report measures of adherence were obtained from overweight college women undergoing treatment that involved either dietary restriction alone (Group DR; N=15) or dietary restriction plus exercise (Group EX; N=9). Change in recovery pulse rate was used as an additional measure of adherence to exercise.

Method

Self-Monitoring Records

The following adherence measures were extracted from subjects' daily self-monitoring records: a) frequency of recording caloric intake; b) frequency of reporting compliance with caloric restrictions; c) frequency with which subjects in Group EX recorded caloric output; and d) frequency with which subjects in Group EX reported expending at least 200 calories.

Questionnaires

Hours spent in aerobic activity were determined from subjects pretreatment and posttreatment questionnaires. At posttreatment, all subjects completed the Eating Behavior Inventory (EBI), an instrument assessing for behaviors theoretically facilitative of weight loss (O'Neil, Curry, Hirsch, Malcolm, Riccle, & Sexauer, 1979). Subjects also rated the extent to which exercise aided their weight reduction efforts on a posttreatment questionnaire.

Physiological Measure

Recovery pulse rates from a submaximal stress test were obtained from each subject at pretreatment and posttreatment.

Results

Average weight loss after 10 weeks of treatment was 3.5 and 8.61 pounds for groups DR and EX, respectively. Group DR had recorded calories only 58% of the time and Group EX 51% of the time. Out of the days on which subjects recorded calories, Group DR reported compliance with caloric restrictions an average of 73% of the time and Group EX an average of 86% of the time. There were no significant differences between the groups on frequency of self-monitoring intake or on adherence to caloric restrictions.

Subjects in Group EX recorded their caloric output only 33% of the time. Out of the number of days that they recorded caloric expenditure, they reported expending 200 or more calories 82% of the time.

EBI ratings indicated that subjects adhered to changes in eating habits inconsistently. There were no significant differences between the groups on EBI ratings.

Group EX reported significantly more hours in aerobic activity at posttreatment ($t=2.58; p < .05$) and decreased significantly more in recovery pulse rate ($F=4.57; p < .05$) than Group DR. Group EX rated physical activity as the most important aspect of their weight reduction efforts. Group EX rated physical activity as significantly more helpful than did Group DR ($p < .05$ for all ts.).

A marginally significant correlation emerged between frequency of self-monitoring caloric intake and weight loss ($r= -.43; p=.06$). Several EBI items and subscores also correlated significantly with weight loss ($p < .05$ for all rs). All correlations were in the expected direction.

Discussion

Subjects reported high levels of adherence when they recorded caloric intake and output. However, these results might not have represented days on which subjects failed to self-monitor. Because subjects recorded calories infrequently, self-monitoring was not a valid measure of adherence to caloric restriction or exercise. The importance of self-monitoring was suggested, however, in the marginally significant relationship between frequency of self-monitoring and weight loss.

The remaining adherence measures suggested that subjects in neither group adhered to good eating habits consistently, but

that subjects in Group EX increased their activity levels. These results further suggested that the differential weight loss between groups could be attributed to an increase in physical activity by Group EX.

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